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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,358	02/02/2004	Ronald S. Karr	VRT0133US	7650

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EXAMINER
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YU, JAE UN

ART UNIT	PAPER NUMBER
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2185

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01/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/770,358	KARR ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jae U. Yu	2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The examiner acknowledges the applicant's submission of the amendment dated 10/22/2007. At this point claims 7 and 18 have been cancelled. Thus, claims 1-6, 8-17 and 19-22 are pending in the instant application.

### *Response to Amendment*

In view of the affidavit dated 10/22/2007, the 35 USC 102 and 103 rejections dated 9/19/2007 are withdrawn. The examiner directs the applicant's attention to the following new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 4, 6, 8-10, 12, 15, 17 and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Blea et al. (US 6,212,531).
2. Independent claims 1 and 12 disclose; "a memory medium comprising instructions executable by a computer system [**software stored and executed in a computer system, Column 4, Lines 20-25**]", wherein the computer system implements a method in response to executing the instructions,

"creating a first storage object, wherein creating the first storage object comprises a computer system creating a first storage object description, wherein the first storage object description comprises data that relates the first storage object [**"Pointers 36" for "Virtual Volume A 32", Figure 2A]** to first underlying storage objects or to first physical memory regions [**"RAID 18", Figure 2A]**",

"creating a second storage object [**"Virtual Volume B 34", Figure 2B]** as a virtual snapshot copy of the first storage object, wherein creating the second object comprises the computer system creating a second storage object description, wherein the second storage object description comprises data identifying the second storage object [**"RAID 18", Figure 2B]** as a snapshot copy [**"snapshot copy", Column 2, Lines 26-29]** of the first storage object [**"Virtual Volume A 32", Figure 2B]**",

"adding to the first storage object description data [**"Pointers 38" directing to the underlying "RAID 18" of "Virtual Volume A 32", Figure 2B]** identifying the second storage object [**"Virtual Volume B 34", Figure 2B]** as a snapshot copy of the first storage object",

"the computer system transmitting the first storage object description [**"Pointers 36 & 38" for "Virtual Volume A 32", Figure 2B]** to a first computer system [**Figure 1]**", and

"the computer system transmitting the second storage object description [**"RAID 18", Figure 2C]** to a second computer system [**"Controller 40" & "RAID" 42, Figure 2C]**".

3. **Claims 4 and 15** disclose, "information relating the second storage object to second underlying storage object or second physical memory regions [**each "DASD 18", Figure 2B]**".

4. **Independent claims 6, 17 & dependent claim 8, 19** disclose; "a memory medium comprising instructions executable by a computer system [**software stored and executed in a computer system, Column 4, Lines 20-25]**", wherein the computer system implements a method in response to executing the instructions,

"creating a second storage object [**"Virtual Volume B 34", Figure 2B]**, wherein creating the second storage object is created as a virtual snapshot copy [**"snapshot copy", Column 2, Lines 26-29]** of a first storage object [**"Virtual Volume A 32", Figure 2B]**, wherein creating the second storage object comprises a computer system creating a description of the second storage object [**"RAID 18", Figure 2B]**",

"adding data to a description for the first storage object [**"Pointers 38" directing to the underlying "RAID 18" of "Virtual Volume A 32", Figure 2B]** to indicate that the first storage object is related [**"snapshot copy", Column 2, Lines 26-29]** to the second storage object [**"Virtual Volume B 34", Figure 2B]**",

"the computer system transmitting the first storage object description [**"Pointers 36 & 38" for "Virtual Volume A 32", Figure 2B]** to a first computer system [**Figure 1**]", and "the computer system transmitting the second storage object description [**"RAID 18", Figure 2C]** to a second computer system [**"Controller 40" & "RAID" 42, Figure 2C]**".

5. **Claims 9 and 20** disclose, "the first storage object description is transmitted to the first computer system after the data is added to the first storage object description [**"Pointers 38" directing to the underlying "RAID 18" of "Virtual Volume A 32", Figure 2B]**".

6. **Claims 10 and 21** disclose, "data that relates the second storage object to second underlying storage objects [**each "DASD 18", Figure 2B]**".

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 2, 3, 5, 11, 13, 14, 16 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blea et al. (US 6,212,531) in view of Berg (US 6,222,558).

2. As per claims 2, 3, 11, 13, 14 and 22, Blea et al. disclose, "transmitting the first storage object description after the data is added to the first storage object description to indicate that the first storage object is related to the second storage object [**"Pointers 38" directing to the underlying "RAID 18" of "Virtual Volume A 32", Figure 2B]**".

Blea et al. do not disclose expressly, "transmitting the first storage object description to the second computer system; transmitting the second storage object to the first computer system".

Berg discloses transmitting object description to other workstations in column 2, at lines 46-51.

Blea et al. and Berg are analogous art because they are from the same filed of endeavor of data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Blea et al. by transmitting object description to other workstations as taught by Berg in column 2; at lines 46-51.

The motivation for doing so would have been to provide a simplified set of commands that is concise for rapid transmission and reception as expressly taught by Berg in column 2, at lines 38-41.

Therefore, it would have been obvious to combine Berg with Blea et al. for the benefit of simultaneous data sharing to obtain the invention as specified in claims 2, 3, 11, 13, 14 and 22.

4. As per claims 5 and 16, Blea et al. disclose, "modifying the first storage description [**redirecting "Pointers 38" from "RAID 20" to "RAID 18", Figures 2A & 2B]**"; and "transmitting the modified first storage description to the first computer system [**"Pointers 38" directing to the underlying "RAID 18" of "Virtual Volume A 32", Figure 2B]**".

Blea et al. do not disclose expressly transmitting the storage description to the "second computer system".

Berg discloses transmitting object description to other workstations in column 2, at lines 46-51.

Blea et al. and Berg are analogous art because they are from the same filed of endeavor of data transmission.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Blea et al. by transmitting object description to other workstations as taught by Berg in column 2, at lines 46-51.



The motivation for doing so would have been to provide a simplified set of commands that is concise for rapid transmission and reception as expressly taught by Berg in column 2, at lines 38-41.

Therefore, it would have been obvious to combine Berg with Blea et al. for the benefit of simultaneous data sharing to obtain the invention as specified in claims 5 and 16.

### ***Conclusion***

A. Claims No Longer in the Application

Claims 7 and 18 were cancelled.

B. Claims Rejected in the Application

Claims 1-6, 8-17 and 19-22 have received a second action on the merits and are subject of a second action non-final.

C. Direction of Further Remarks

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jae Un Yu who is normally available from 9:00 A.M. to 5:30 P.M. Monday thru Friday and can be reached at the following telephone number: (571) 272-1133.

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If attempts to reach the above noted examiner by telephone are unsuccessful, the Examiner's supervisor, Sanjiv Shah, can be reached at the following telephone number: (571) 272-4098.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1/6/2008

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